

Solar Lanterns Test (pico-PV systems)

Product photo												
Product name	Sun x-set mobile	Aishwarya NEST-6543	Solar 2007-1	Solux LED 100	MightyLight 3040	Solux 50	Glowstar GS7	AS018	AS021	MS01	SL9000SW	Wuara 2212SL
Manufacturer	Würth Solergy (Germany)	Noble Energy Solar Technologies Ltd. (India)	Solarprojekt Freilassing e.V. (Germany)	Solux e.V. (Germany)	Cosmos Ignite Innovations (India)	Solux e.V. (Germany)	Sollatek Ltd (UK)	Astral Solar Technology Co. (China)	Astral Solar Technology Co. (China)	Macro-Solar Technology Co. Ltd (China)	Global Marketing Technologies Inc. (China)	SolEnergy Africa PTY Ltd (South Africa)
Internet address	www.we-online.de	www.solarnest.net	www.solarprojekt-freilassing.de	www.solux.org	www.cosmosignite.com	www.solux.org	www.sollatek.com	www.astssolar.com	www.astssolar.com	www.macro-solar.com	www.gmtms.com	www.solenergycc.com
Weight in kg (lamp)	0.7	1.2	0.6	0.5	0.5	0.5	3.2	n. s.	0.9	0.8	2.1	0.5
Light source	CFL	CFL	LED	LED	LED	LED	CFL	CFL	LED	LED	CFL	LED
Battery	NiMH/Lead	Lead	NiMH	NiMH	NiMH	NiMH	Lead	Lead	Lead	NiMH	Lead	n. s.
Module	external	external	external	external	external	external	external	external	external	external	integral	integral
Additional utility	12 V socket, battery charger unit	no ²⁾	Radio can be connected	2 brightness levels	3 brightness levels ³⁾	no	12 V socket	6 V socket, mobile phone charger	steplessly dimmable	no	Radio, flashing light	no

[illegible]

Function	2	3	1	1	1	1	3	2	2	5	3	5
Visual examination: lantern	4	3	1	1	1	3	1	4	4	2	4	5
Lantern mechanics	2	3	1	1	1	4	3	5	5	2	4	5
Electrical components	2	2	1	1	1	2	2	4	4	4	4	5
Electronic components	4	2	3	4	3	4	2	4	4	4	4	2
Weather protection	4	4	2	1	2	4	4	n.s.	2	4	5	5
Visual examination: module	n.s.	2	2	2	2	3	3	2	3	3	6	5
Module mechanics	n.s.	2	2	3	2	4	4	2	4	2	5	5
User manual	2	2	2	2	3	2	1	5	5	5	4	3
Preliminary evaluation	satisfactory	satisfactory	good	good	good	satisfactory	satisfactory	poor	poor	poor	poor	very poor

[illegible]

Deviation of solar module from specifications	1	1.5	3.5	4	1.5	2	4
Battery capacity deviation (5 %)	1	1	1	1	2	2	1
Battery capacity loss in continuous test (5 %)	1	–	2	1	5	1	–
Efficiency of charge controller (15 %)	1	1	2	1	4.5	1	3
Efficiency of ballast unit (5 %)	2	4	1	1	3	1	3
Cycle test/degradation	ok	ok	ok	ok	ok	ok	–1
Breakage test	ok	–0.5	ok	ok	ok	ok	ok
Luminous flux (10 %)	1	1	4	2.5	2.5	2	1
Luminous efficacy (5 %)	2	2	4	2	2	1.5	3
Solar fraction (20 %)	1	3	1	1	1	1	4
Burn time/light duration (20 %)	1	2	1.5	1	4	3	3
Main test evaluation	very good	good	good	good	satisfactory	satisfactory ¹⁾	poor

[illegible]

Purchase price CIF, USD (2008)	500 ⁴⁾	52 ⁵⁾	122	117	55 ⁶⁾	36	210 ⁷⁾
Running cost per month, USD	30	1	4	2	3	2	12
Running cost per kilolumen-hour, USD	2.6	0.1	1.0	0.4	0.6	0.2	0.7

Price-to-performance winner:

Products that achieve the same score are arranged alphabetically by product name.

Overview of marks: 1.0-1.4: very good; 1.5-2.4: good; 2.5-3.4: satisfactory; 3.5-4.4: poor; 4.5-5.0 very poor;
n.s. = not specified

Notes:

- 1) Mark reduced by one point because of lack of weather resistance.
- 2) Alongside the model tested, this manufacturer also produces a similar model that includes a radio that costs approx. USD 8 more.
- 3) Alongside the model tested, the manufacturer produces a similar model that includes a mobile phone charger that costs approx. USD 10 more.
- 4) In early 2009, the manufacturer offered a one-lantern version of this system for about USD 350 CIF price to GTZ.
- 5) The manufacturer announced price reductions in 2009.
- 6) In early 2009, the manufacturer announced improved battery charging and price reductions of about one third.
- 7) According to the manufacturer, the Glowstar price has fallen in 2009.

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